will probably occur to the reader from different parts of India. In parts of the Hushyárpur Siválik Hills, I found *Butea* leaves gathered for manure. In some parts, turmeric fields are covered with leaves (sâl and other) to shade the ground. In the Melghát forests of Berar, the large teak leaves are largely gathered and exported in quantities (especially the very large leaves off young saplings). The leaves are used to form the inner lining for roofs of native houses[5], a layer being placed below the grass, &c., which forms the flat roof over the rafters or bamboos. Leaves of *Butea* and *B. Vahlii* are also so used. In Berar, the teak leaf gathering is apparently enjoyed as a right. The exercise of rights of this kind do not give rise to any practical difficulty.

## D.—Wood Rights.

Rights to wood will be found to consist either of rights to—

building timber or wood,
firewood,
small wood for implements and industries,
dead and fallen wood,
stumps.

Catechu-boiling may be regarded as a wood-right, because of the trees cut; but this I deal with separately.

### § 24.—*Building wood.*

The practice of cutting trees has been at all times restricted to some extent by the ruling power. Indeed, the only measure of forest conservancy that was ever taken in former days was to declare certain valuable kinds of trees (wherever found) to be "Royal" trees[6]. This is probably more for the sake of revenue than from any care for the trees themselves, and may therefore be classed with

[5] In 1879-80, as many as 9,188 bundles of 500 leaves each were exported.

[6] In Burma teak trees are Royal trees. In other parts, the Government has generally reserved sandal, blackwood, "poon," and other species. In the Himalaya deodar has usually been considered a Royal tree in British times, and perhaps was so in some of the Hill States under native rule.

other arrangements under Native rule for taxing forest produce. But it had the effect of preserving the growth, and preventing the usual license in the matter of forest produce generally, extending to such trees and growing into a right.

Rights to trees for repairs and building of houses, temples, &c., rarely or never extend to trees locally understood to be "reserved," unless there has been some express order or grant on the subject; and then it will be found that inferior trees are to be had free, but superior ones on a certain payment.

I do not know of any instance where there has been any doubt whether a right was for *building* wood or for firewood[7]. In the vast majority of cases at any rate, this right, when claimed in India, will be found to be a "real servitude" for the beneficial enjoyment of some house or building. A man can hardly have a right to "building wood," unless he has a house or something to keep in repair or rebuild.

I do not say it is impossible that a person should have a right to a certain number of poles, or something of the kind which might amount to a 'personal' right to building wood; but the first-named right is far more common.

As to the *purposes* for which building wood can be claimed, it is evident that it is for the repair, and perhaps entire rebuilding, or existing buildings, bridges, &c., but it could not be claimed for erecting new buildings in addition to what were on the ground before[8].

But sheds and "accessory buildings" necessary for the right-holder's business or occupation, are included[9].

[7] I mention this because in France if a right as to "wood" generally, that is held to mean "firewood" on the principle of the least burden to the estate (Meaume, page 243, § 184). But this is not admitted in Germany (Roth, § 280), and certainly would not be in India: we should enquire what was really wanted and record the right accordingly.

[8] Meaume, § 214; Roth. § 282. So Hartig (Rönne, p. 734), and in the Saxon Mandat, §§ 19, 20.

[9] What Meaume conveniently calls "*bâtiments d'exploitation*" (Vol. I, § 221).

The buildings must be maintained or rebuilt as they were before, and a right-holder could not demand a large quantity of wood (for example) to rebuild entirely in wood a house which had previously been built of stone.

Nor, in India, could a man, whose right was to so many poles for a village house in the native fashion, claim squared beams, or timber to make them, when he became rich enough to wish for a larger and better house. Nor, for example, could an European, becoming entitled to a *zamindár's* right to wood, claim free wood to build a house on the European style; his right (supposing such a right possible) would only extend to such wood as a native zamindár could have claimed.

Regard must be had to the custom and style of building in the locality[10].

As to *quantity*, the above considerations will, to some extent, serve to limit it. It is rarely, at present, convenient to fix an exact number of trees to be cut in a year, or a precise number of cubic feet to be claimed by each right-holder. Perhaps, in the case of *poles* of sál or other species for native house-building, it may be possible to do so.

[10] Meaume (I) § 213. I have here to notice a very important point connected with rights to building wood in the North-Western Himalaya. The right has obviously to be exercised without waste, and in such a way as, while the householder gets *sufficient* to do his work, he does not make a heavier demand on the forest stock than need be. Now, in some places, the people are in the habit of squaring timber with an adze, or axe, and consequently making one beam out of a tree that would, if sawn up, yield two or more. There is no excuse for such waste, when the people can be provided with saw sand can use them, if they chose to overcome their apathy. This should be made as easy as possible, by loan of saws, and having them for use at certain convenient places; and it might in due time be insisted on as a condition, that wood should be sawn up; the quantity of wood granted should be such as will amply suffice, *if* saws are used. There are no means in Eastern countries of introducing an economy of this kind but by a little pressure at first. In a district like Kulu, where more than 20,000 trees are given annually to right-holders free, it makes an enormous difference to the limited area of forest whether these 20,000 trees are really necessary, or whether one-half the material is not wasted by being chipped away with an axe; if that is so, 10,000 trees with the use of the saw would suffice to produce the same results as regards building and repairs *as the* 20,000.

It may, however, be very convenient to fix a quantity in this way: supposing that a village or a number of villages had a right to building wood for a number of houses (which the Forest Settlement Officer would ascertain), it might be the most easy way to say, that a certain number of trees of a certain kind can and will be cut, or marked for cutting, annually in the forest, and that this wood will be distributed among the right-holders. Those persons who did not want wood would either store it up against they did want it, or would arrange the matter among themselves.

It is hardly necessary to remark that wood granted under a right of this kind must always be applied to the repairs and building, and can never be sold[1].

### § 25.—*Method of supply.*

The next thing is to settle how the material is to be supplied.

When such an arrangement as above indicated is not carried out, it will generally be provided that a given number of houses are entitled to wood of a certain kind and size as circumstances require, and that they will get it on application to a forest officer. The forest officer will issue a written "permit," specifying the kind of tree, size, or girth, number, or other particulars, and the time within which the material must be taken out of the forest.

The forest officer will, of course, grant as much as is really necessary on the best (but liberal) estimate he can make for the work in hand, and will refuse a permit for unnecessary quantities, or for valuable wood to be used for purposes for which inferior kinds would do as well[2].

Permits are usually issued as occasion requires; or, in places where the forest officer is not always on the spot, it may be a rule or custom that applications are made and acceded to at certain

[1] So in the European laws. Meaume, § 419, Cod. For., Art. 83. Roth, § 280 (*b*), and Eding, p. 115.

[2] In France (see Art. 123 of the Ordinance for the execution of the Forest Code), right-holders to timber must get a proper indent or estimate made out of the kind and quantity of wood necessary for the repairs or building in hand.

seasons. In Germany, it is a rule that only one year's supply can be asked for at a time.

There are, however, circumstances under which it may be desirable, in case of calamity to the forest, to require the right-holders to take and store up, perhaps for several years in advance, their quota of timber.

A severe storm may have caused the fall of a large number of trees, or an attack of caterpillars may have rendered it necessary to fell a large number at one time[3], or a fire may have killed a number of trees. Here it may be necessary to dispose of a large number of trees at once, and the forest may not be in a condition to yield any more for a long period.

And generally, it is understood that rights *can only be complied with within the limits of the proper yield of the forest.*

Right-holders may always be required to save the forest by utilizing trees standing dead or dying[4].

The French law never allows the right-holder to cut and take his own timber; he always takes it on a "délivrance," or formal authorization by the forest officer[5].

[3] See Roth, § 288.

[4] Roth, § 288; but I do not mean that a general right to take trees standing dead (of a size fit for building purposes) should be conceded. I have seen cases where a custom of this kind had sprung up, and of course people killed trees on purpose: and this offence can rarely be detected. Such trees are called in France "bois charmés" (see Meaume, § 199). The only case in which I have met with such a right is in the Panjáb hills is where a temple-keeper is conceded a right to take stems that die or fall by storm, snow, &c., for the repairs of the temple. I suspect even then the fall is often aided. In Burma trees "charmé" are called natthát (killed by the "nats" or fairies), and those blown down are "aulay": I never heard of a right to take these, unless specially permitted in fulfilment of a general timber right.

[5] Code For., Art. 79. This rule seems to have been a very ancient one, at least in one form or another. Mention is made of it in an ordinance of Philip the Bold (A. D. 1280).

No one to whom a "délivrance" is refused improperly can go and take the wood himself, not even with an order of Court; only *damages* could be given against the forest-owner wrongfully refusing a "délivrance." (Meaume, § 362.)

In France this applies to all wood-rights, so that I shall here dispose of the subject and not recur to it under the head of fire-wood subsequently dealt with.

The *délivrance* varies according to the nature of the wood. It may be an actual making over of so many beams, or so many cubic feet in log for building, out of timber cut already by the Forest Department, or it may be that the forest officer marks certain trees and authorizes the right-holder to cut and remove them. If the *délivrance* is of dead and fallen wood, it would simply be an order clearly defining where the wood may be picked up, and on what days, &c.[6]

The material must always be removed in a fixed time, or else the forest would be burdened with logs and pieces lying about for an indefinite time, and there would be great opportunity for trespass, theft, &c.[7]

If necessary, it is required that material be removed by a certain route, so as to avoid injuring the forest growth.

Damage to the forest growth by negligence in extracting material, is a punishable offence.

The German law has similar provisions[8]. There must be an assignment of the wood and of the place where it is to be cut (*anweisung*). The Austrian law gives full details[9]. The right-holder can only take marked trees, and in the place pointed out, or else he must be very clearly informed what he may do. The forest-owner may also require that the right-holder shall put a mark on his timber,

[6] Meaume, § 365, &c. There is some doubt as to whether a délivrance must be in writing: in Art. 79 of the Code mention of writing is omitted. Meaume thinks that this was an accident; nevertheless, under Art. 79 as it stands, a verbal order would be sufficient.

[7] Roth, § 280 (*b*). So in France, Code For., Art. 83, and Meaume, § 419. Eding p. 115.

[8] See Roth, § 280 (*c*); but some of the laws are not clear as to whether the wood is to be cut and removed by the right-holders after it has been assigned to them. See Eding, p. 108 (VI A.)

[9] Articles 15—24.

and submit to have his loads examined as they pass out of the forest. A time for removal is fixed[10].

In India some of these points are also applicable as clearly necessary for the safety of the forest.

The number of houses and right-holders being known, it should be provided at settlement, that trees of the size required will be marked and made over to the right-holder to be cut in the part of the forest indicated.

Some of the European text-books discuss some further questions which need not, in our present stage of progress in India, be gone into. For example, whether, if the stock in the forest is so diminished that the right-holders can no longer get what is due to them, it should be held that the forest-owner is liable to make compensation; it is argued that it may be so if the diminution is due to his wasteful or negligent working, but not otherwise. Another point is the liability to supply timber where a house is burnt down and compensation has been given by an insurance office for the loss[1]. These matters have no practical importance, at present, in India.

### § 26.—*Firewood.*

This right is spoken of in the English law-books as the right of "common of estovers," or "fire bote" (*affouage* of French law).

In Europe, where all material from a forest has a value, and can be utilized, distinction is drawn between twigs and branches taken to form faggots,—firewood from stems of a size that only require to be cut to lengths but not further split,—wood that requires to be split into two or into four,—firewood from dead branches or trees, from refuse of fellings, from wood broken off by storms, &c.[2]

In India, it will be sufficient to include all in one head, for generally it will be found that rights to firewood originated mostly

[10] Austrian law (Art. 17). In Prussia two months are allowed for removal (Rönne, quoting Ordnung of 1851, § 30).

[1] See Eding, pp. 115, 116, &c., on some of these points.

[2] In France small stuff tied into bundles is called *bois de corde*: wood that does not need splitting only cutting to lengths, is *bois de rondin*; that which is split into two or four, *bois de fente, bois de quartier*, &c.

in the practice of going to the nearest wood and bringing in what was fit to burn, and what was got with the least trouble.

Consequently, it is always fair, in regulating a firewood right, to require people to take dry wood of any kind that can be found in the shape of branches knocked off by snow or storm, and lying on the ground; dead stems and dead branches which may be broken off with the hand; in short, any waste and inferior stuff which is sufficient for the purpose; and not to cut any living tree, when the former suffices.

On the same principle, where there is not dead wood, it should be ordered that inferior trees must be utilized, in preference to hard wood and valuable kinds, even if the latter are not certain to attain any good size.

The "inferior kinds" spoken of must be of course fit for fuel. It would be hard to ask a man to take his entire load of *Grewia oppositifolia* (dhâman) in some of our lower hills, or of *Salvadora* in the Panjâb plains: but he must be expected to take a proportion. And so as regards size: a man cannot be asked to take his whole supply in small stuff: he must, however, take a fair share, and cannot ask to have the whole in solid pieces[3].

The *purpose* also should be looked to. For example, thorny brushwood and *Adhatoda vasica* will do well for ovens and for lime kilns and for such purposes; solid fuel, such as one would use for a railway engine, should not be given.

A right to cut *timber* trees in any stage of growth for fuel cannot be admitted[4]. What, in any given locality, are timber trees likely to grow to full size for building, for sleepers, and such like, is a question of fact very easily determined. Of course some trees may give timber and yet not be very valuable, or some

[3] Roth, § 281.

[4] See Meaume (end of § 198, Vol. I, page 259). The only exception is where the forest-owner has chosen to convert a coppice forest into high forest, and so only has timber trees and must provide for the right with them (§ 211, p. 279). In England good timber can only be demanded in default of any other means of supplying the right.—(*Cooke, pp. 35—37*).

trees may grow to a size which is neither the one nor the other. But in practice there is no difficulty in laying down a sufficient distinction.

There has been no time in the history of India when the ruling power did not insist, or might not have insisted on, such a rule in the case of firewood rights.

The only exception is where there are badly-grown trees, or where there are thinnings, or where the wood cannot be otherwise utilized. In such cases it should be a matter of special concession.

So, too, I do not speak of special concessions in time of famine, or of particular places where there is wood which we do not know what to do with, and so forth.

As regards quantity, this right, more frequently than the last, admits of specification, if not of stacks or weight, at least of number of loads, &c., and where it is a case of cutting brushwood, of area to be cut over.

Where the right is supplied by picking dead and fallen wood, the only limitation imposed is that it has to be gathered over a given area of forest, in such parts as are indicated by the forest officer.

There may be cases where it is part of the right that the material be carried away and sold; here the quantity, number of loads, &c., to be taken ought certainly to be fixed, and this can usually be done by taking the average of past years: otherwise, a person holding such a right might go on increasing his sales till a really formidable demand was made on the firewood resources of the forest. Even if it is only fixed at a certain number of head-loads, bullock-loads or so, it is better than uncertainty.

More commonly the right is required so much for each house in a village: in that case the houses are counted and the number of hearths and their requirements estimated[5].

[5] I shall afterwards, when speaking on section 23, which prohibits the growth of new rights, dispose of the question which may arise in all cases dependent on the *number of residents* in a village, as to whether new houses and new comers to the village are entitled to the same right as those in existence at the time of settlement.

It is a question of fact whether firewood can be required not only for the hearths of the residences but also for workshops belonging to the village[6].

As regards the time at which firewood may be got in, a supply for a long period in advance cannot usually be demanded. In Germany, wood for one year only is given at one time[7]. In India, convenience will be considered, and this matter may need regulation according to circumstances: but ordinarily, a man is allowed by permit to go and cut from time to time whenever he wants wood, provided he does not exceed his total yearly quantity, or does not exhaust the area set apart for cutting; that is his own affair, and if he too quickly uses up the supply he must go without[8].

I should here remark that it is rarely or never necessary to impose any restriction on the mere gathering or picking up of small wood, dead boughs, &c.

The material is never valuable: it is a boon to the poor people in the neighbourhood, and to prohibit its use only encourages theft[9].

People who take dead wood may even break off dead branches that they can reach: but they must never use irons or devices for climbing, nor any kind of cutting instrument[10].

[6] See Eding, p. 117. Sheds and outhouses requiring fuel are considered as part of the house. If a man enlarges his house and creates a number of new hearths, he can only, in Germany, get wood under his right for the original hearths. (Roth, 28 (*b*)).

[7] Eding (bottom of page 117).

[8] In France, by Art. 81 of the Code For., in collecting the supply of firewood, some person is employed to cut the area completely and distribute the produce. This cutting is done at once, as the "*coupes*" are regulated into such size as may make this convenient. In time some such arrangement will become necessary in our own forests. See also Code (Art. 105), and the Ordinance for executing the forest law (Art. 122) as to the practice in supplying firewood rights.

[9] So vonBerg, p. 129, Rönne, p. 740. By the Saxon Mandat of 1813, § 27, poor people are expressly allowed to take dry wood lying about; and so in Prussia (Eding, p. 119), but such wood must never be sold—it is only a concession for personal wants.

[10] So in Code For., Art 80, and Eding, p. 119.

Under this right, large trees, standing dead or fallen, are not included, and may not be touched, unless, indeed, they are old rotten stems lying useless in the forest, which are chipped away and taken piecemeal. ("*Urholz*" of the German books).

§ 27.—*Right to wood for implements and industries.*

These rights are generally the same as other wood-rights, except that they are generally on a smaller scale.

Bamboos are the only product demanded in large quantities, and it is easy to regulate the supply in this case.

The villages will either be allowed certain *tracts* from which they may cut bamboos, the production being the limit (and there is not much danger of their exceeding that, for the people as a rule understand the nature and growth of bamboos sufficiently), or else they will be allowed a certain *number*.

Other rights under this head, generally, require only small pieces of wood, and that in no very large quantity[1]. But here, of course, the wood required is of a definite species. The comb-maker requires box or olive wood; for the shuttle of a loom a bit of hard *Acacia catechu* or other dense heavy wood is necessary, and so forth. The right-holder could not be required to use dead wood for his plough, or a pine tree for the pestle of his oil-mill.

On the other hand, people cannot claim any wasteful exercise of their right, as *e.g.*, cutting down saplings of valuable trees to make fencing (unless, indeed, there are forest *thinnings* available, which are not otherwise utilizable).

[1] The only exception that I know of is where large pieces are required to make the large pestles and mortars used for pressing oil for sugar-cane in some parts. The receptacle is made out of a solid stump, and the pestle is a thick piece of some hard heavy wood.

In Burma I saw a very wasteful process of making cart-wheels, which consisted in cutting down a tree ("padouk" I think) of sufficient girth that a section across the lower part would, when dressed a little, give a solid disc for a cart-wheel: two pairs of these thick discs (possibly more than one pair) would be cut out of the lowest and broadest part of the stem, the rest of which would be abandoned. The wheels, it is true, fetch Rs. 30 and even more a pair, but that does not excuse the waste. No one, however, would recognize a *right* to have wood for wasting in this fashion.

Usually such rights will be exercised by the right-holder getting a written order or permit, which will specify where the wood is to be got, and how many pieces. In settling such rights, the amount of wood required will rarely be such as to necessitate any specific fixing of quantity.

Under this head I do not include manufactures like canoe-making or boat-building in Burma, where whole trees, and those of a large size, are required. Here, if there is a right to be supplied with timber for such purposes, it is counted as a timber-right, and it must be strictly determined (as indeed it easily can) what number and kind of trees may be taken in a year for that purpose. I believe, however, that *rights* to timber for this purpose will be rare, if even they exist.

### § 28.—*Stumps of trees, &c.*

It is not often in India that villagers are able, or willing, to extract the stumps of felled trees and utilize them for fuel. The labour and cost of extraction is too great.

There is, however, a use to which stumps of resinous pines and deodar are put in the North-West Himalaya. They are utilized for "jugni," or splitting off pieces for torches[2].

There is of course no objection to this practice. And a stump often lasts a long time; for the contractors of former days, when they worked the forest, invariably felled the trees high above the ground, leaving stumps 5, 6 and even 8 feet high.

If, in any case, the extraction of stumps is conceded as a right, the people should be required to fill up the holes[3]; and the practice must be stopped where there is a seedling growth[4].

Of course no such right would be recognized in a coppice forest, where the stools were capable of sending up shoots.

[2] See also under (F), Rights to Produce (Resin).

[3] If this is desirable. In cutting *Prosopis spicigera* for coppice, it is an advantage to have the hole, caused by taking out a large part of the root stock below the surface, left as it is: it promotes the sending up of shoots and allows the scanty rainfall to accumulate, and the ground to be loose and moist.

[4] See Eding, p. 123 (F), and the Saxon Mandat of 1813, § 10.